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Nonresponse in the 1996 Income Survey (Supplement to the Microcensus)

ÉVA HAVASI AND ÁDÁM MARTON

Abstract: *Income survey: supplementary voluntary questionnaire to the randomly selected one quarter of the April 1996 microcensus, 18,117 households, 16% (2,988) refusals. The characteristics of the households which refused to answer the income survey (they are not randomly distributed) were carefully studied. The most important results and measures which were done to reduce the bias are presented. A substantial number of census variables for households were found to be associated with nonresponse. The characteristics most strongly associated with Income Survey response rate were the qualification level of head of household and the type of region. Higher response rate was found in the countryside among the older households with low income and low qualification and high refusal rate in Budapest, mainly in high income groups with high qualification level, as well.*

Keywords: *nonresponse rate, nonrespondents, income survey*

The Unified System of Household Surveys (USHS) has been operating since 1976. It is part of the Hungarian Central Statistical Office (CSO), and covers the noninstitutional population.

There are two large ongoing rotating household sample surveys:

- The Family Expenditure Survey (FES)
- The Labor Force Survey (LFS).

Up to 1991 a separate income survey was also carried out in every four or five years.

Supplementary, short questionnaires on different topics are sometimes added to the FES and/or LFS.

In most household surveys, which are face to face interviews, the response rate is still fairly high. This is due partly to the good sampling frame and field work and also to the long expertise, and to a certain extent, the good respondent-interviewer relations. But the response rate differs depending on the topic of the survey and the strata of the population. In recent years a decline was observed.

The interviewers' activities are organized and supervised by the County Offices of the CSO. The interviewers in the smaller towns and villages establish, in many cases, some kind of personal contact with the members of the households in the sample. This helps to reduce refusals in the consecutive waves but as far as response error is concerned, it has some disadvantages too. The given arrangement of field-work is crucial: it determines the way how to handle nonresponse, nonsampling error, etc.

Careful (follow-up) studies, call-backs help to reduce the number of nonresponse and also try to get some basic information on nonresponding households. Bias can be also reduced through poststratification, reweighting.

It is obvious that the estimates for the "tails" of the target population (very poor, very rich) are unreliable due to high nonresponse rate and also certain nonsampling errors¹.

It appears now that life is getting tougher for survey methodologists and the populations we need to survey. On the one hand, people are more vehemently cautioned about sharing "private" information with anyone (government officials included) because of misuse of information and fraud. The population has many more family situations with both spouses working, complicating their lives, and limiting their available time to surveys. And there is a concern that information will somehow be used with negative repercussions on them personally.

On the other hand, those of us administering government sponsored surveys rely on the existence of civic responsibility in the population, well-trained and talented field staff emphasising the importance of the survey data to maximize response rates².

There are population censuses every ten years in Hungary and a microcensus in the middle of these decades. To answer the census questionnaire is mandatory, while in the case of household surveys it is voluntary.

The last microcensus was carried out in the spring of 1996.

Stratified, multilevel sample was designed for the microcensus. The primary sampling units were the settlements. All cities with more than 15000 inhabitants were included, the other settlements were selected proportionate to size. The secondary sampling units were the enumeration districts while the final sampling unit was the address (the household), selected from the updated list of addresses of the enumeration districts. The USHS has a sample of fairly similar character to the microcensus. The experienced field staff helped to conduct the microcensus.

¹ Marton 1995

² P.J. Wait and V.J. Huggins 1996

The "new" personal income and consumption tax system in Hungary was introduced in 1988. Then the private sector was very small. The privatization procedure of the former state-owned (socialist) sector will soon be finished, but the more important point for us is that there are more than a million small private entrepreneurs (fewer than 20 employees).

The willingness of tax evasion is very strong. While employees (wage earners) cannot avoid paying taxes, the small (private) businesses are very successful in that activity. This is a complicated issue. According to certain estimates, the volume of the "black" economy is about 30 pc. of the GDP. In such circumstances it is understandable that the results of an income survey will be certainly biased. Still we have to try to collect data which are fairly reliable at least in certain strata of the population.

Due to the changing survey climate in the country since 1991 there have been no more separate income surveys. Within the new market oriented society data on the widened income distribution are very much needed (10 pc. unemployment and some with high incomes).

To a randomly selected one quarter of the microcensus (0.5 pc. of the total population) a non-mandatory supplementary questionnaire was attached on the amount and sources of the incomes. Another supplementary questionnaire with the same sample size (another quarter of the microcensus) dealt with travelling habits.

One quarter of the microcensus contained 20,087 households for the income survey. The microcensus was successful in 18,117 households (90 pc.). The reason of non response was vacant flat, no contact, not at home, etc. also refusal³. The interview started with the microcensus questionnaire (mandatory) and it was not mentioned in advance that some further questions would follow. When it was completed, the interview with the supplementary (non-mandatory) income questionnaire followed. The result: 15,126 completed income questionnaire (Table 1).

Having matched the approx. 2,900 refusing households, in the case of the income survey with their census data it was possible to analyse the characteristics of the families whose basic characteristics were available from the census.

³ Refusals 4.6% and non-contact from other reasons 3%. No measures were taken although to answer was mandatory.

Table 1: Share of households by type of nonresponse in the Hungarian Income Survey, 1996

Response type	Share of households %	Number of households
Respondents	83.5	15126
Nonrespondents	16.5	2989
Refusals	12.7	2301
Partly refusals	3.3	599
Non-contact	0.5	90
Total	100.0	18117

As it was already mentioned, the very poor, homeless people are missing from the survey as well as those who are very rich or with very high social status, because they generally refuse to answer the questions. In the case of censuses the coverage was more complete. The voluntary supplements are confined to the "average" population about 80-90 pc. of the total. *Who are those who refuse to answer? Where do they live, which strata of the population do they belong to, etc.?*

The different strata of the population behave differently. It is a general observation that the young one person households – practically regardless of the topic of the survey – are not willing to answer or it is difficult to contact them. At the same time pensioners are sometimes happy to answer the interviewer. Some people refuse to discuss topics like income, wealth, religion etc. But they are happy to answer the other kinds of questions: health care, vacation, travelling habits, etc. (The refusal in the latter case was only 6.8 pc., while that of the income supplement was 16.5 pc.) In Hungary income is a real sensitive topic not only because many people do not like to talk about it, but – as it was already mentioned – the so-called black or grey economy is very strong. Those who answer the questions usually say what they declared in their tax returns. Employees generally are not interested in underreporting their incomes, while the family income in the private sector is very underestimated.

The observation unit is the household. It is also a general phenomenon, that if one member of the household refuses to answer the others follow his or her example. When in the following we talk about refusal, it will always refer to a household. It is true, that if the interviewer can build up some contact with the family ("foot in the door") it is highly probable that the interview will be successful. But the opposite of the above argument is also true: if one person is ready to answer, so are the others.

The characteristics of the households where the rate of refusal was higher than the average:

- households in Budapest and in the surrounding settlements
- economically active households
- private (small) entrepreneurs
- highly educated people (relatively high social position)
- households with good housing
- large households

Table 2: Main household types with nonresponse rates significantly above and below average

<i>Groups with significantly low nonresponse rate</i>	
Demographical composition	Households with old persons only (4.5%)
Educational level of head of hh.	Less than elementary school (5.1%)
Economic type of hh.	Inactive hh. (7.0%)
Quality of dwelling	Very bad quality of dwelling (9.8%)
Area type	Small villages (11.2%)
<i>Groups with significantly high nonresponse rate</i>	
Economic status of head of hh.	Self-employed, with more than 20 employees (45.2%)
Quality of dwelling	Very good quality of dwelling (33.9%)
Educational level of head of hh.	University degree (30.1%)
Area type	Budapest (28.5%)
Number of active earners	3 or more adults in employment (24.5%)

In the case of refusals the following characteristics can be observed:

- the higher the educational attainment (social status) the higher the nonresponse rate,
- the nonresponse rate is higher in Budapest, lower in towns and the smallest in the villages,
- the older generation (pensioners) is generally ready to answer
- the response of the one member households is generally high but it depends on their age.

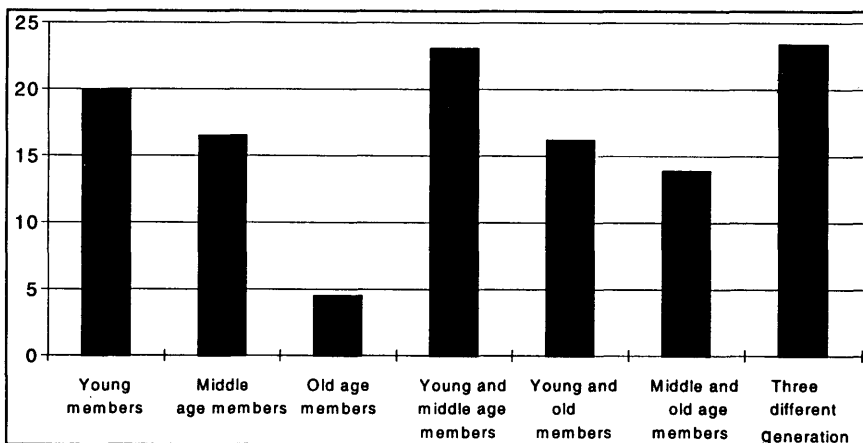
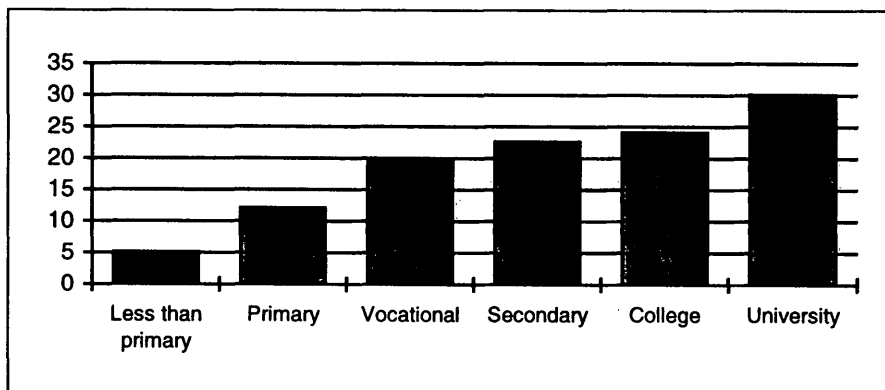
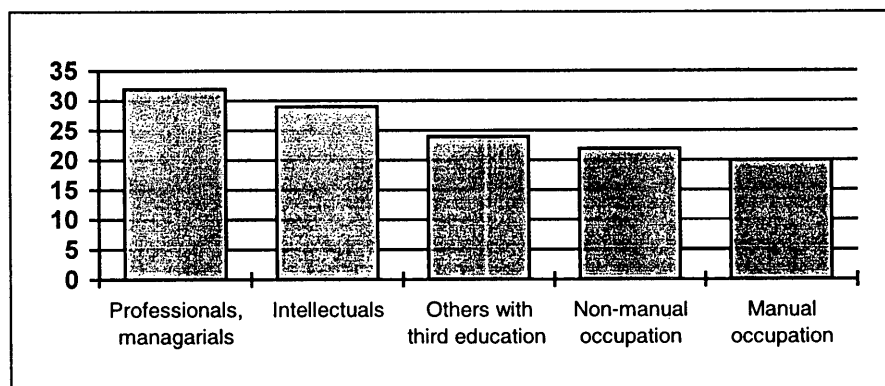
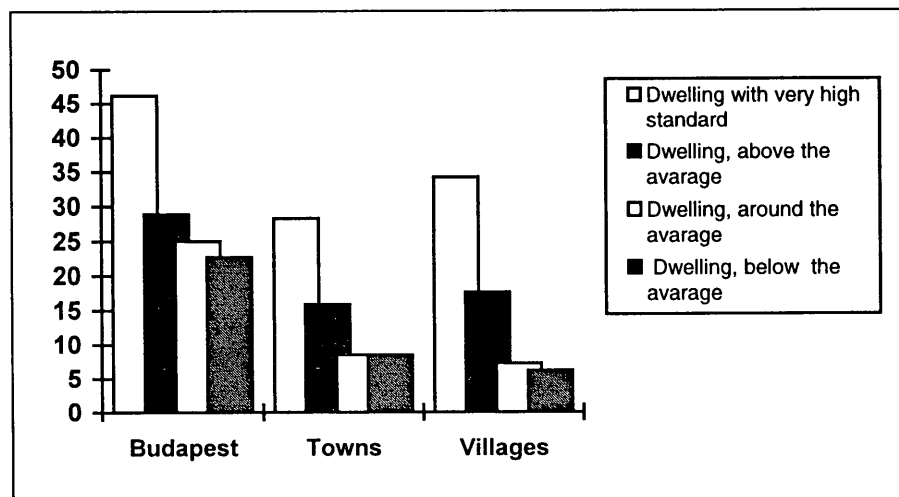
Figure 1: Refusal rates of HIS by age composition of the households, %**Figure 2: Refusal rates of HIS by educational attainment of the head of the households, %**

Figure 3: Refusal rates of HIS by type of occupation of active earners**Figure 4: Refusal rates of HIS by type of settlements and characteristics of dwellings, %**

Based on this information

- further studies should be carried out to try to establish better information on the behaviour of the nonrespondents with different characteristics. (The same type of study is going on in the case of the survey of travelling habits. That will add more information on how refusals depend on the sensitiveness of the topic.)
- the imputation techniques can be improved by the use of the nearest neighbour methods. This seems to be more effective than simple reweighting on the basis of a few demographic characteristics. (The results, the evaluation of the effectiveness of the imputation will be available soon.)

Some remarks on the comparison of the 1995 English FES and the 1996 Hungarian income supplement. The most important differences (Table 3).

Table 3: Main household types with high nonresponse rate in the UK and Hungary (*the average nonresponse rate of the country is 1⁴*)

Household characteristics	UK	Hungary
3 or more wage earner adults	1.52	1.48
Couples with non-dependent child(ren) only	1.49	1.55
Head belonging to ethnic minority	1.45	-
3 or more adult members	1.33	1.13
Head self-employed	1.18	2.09
Head without post-school qualification	1.05	0.70

Conclusions

Up to the early 1990's the rate of nonresponse in household surveys was not a great concern within the CSO. We enjoyed good and stable response rates in practically all surveys except the FES as a result of its heavy burden on respondents.

Recently the problems of coverage (not at home, wrong address, empty dwellings etc.) and refusal are getting more serious.

In Hungary, like in the other East-Central European (former socialist) countries the social

⁴ K. Foster 1995

climate has radically changed, which had a negative impact on the quality of survey data: higher nonresponse, bias, etc. That is reflected in the fairly high refusal rate (4.2%) in the microcensus, which is mandatory, and contains no sensitive data.

The response rate strongly depends on the topic (sensitivity) of the survey and also on the changing social status: the quickly growing private sector, especially the numerous small private businesses. The black (grey) economy is very strong.

Sometimes the CSO is criticized due to the unfavourable economic developments (high inflation rate, unemployment, not reliable register of small businesses), although the CSO strictly follows the very rigorous laws on privacy, the use of individual data, and does everything possible to provide timely and reliable data.

Finally it has to be mentioned that among the new circumstances more and more financial and human resources are needed for call-backs, follow-ups, greater samples etc., which are in many cases not available.

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